



**MICHIGAN DEPARTMENT OF TRANSPORTATION**

**State Long-Range Transportation Plan  
2005-2030**

**Executive  
Summary  
Integration  
Technical Report**

*Prepared for  
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MICHIGAN LONG RANGE TRANSPORTATION PLAN



## Executive Summary

### *Introduction:*

One goal of *MI Transportation Plan* is to present the different aspects of the transportation system in an integrated manner. The technical reports of *MI Transportation Plan* describe the separate programs and infrastructure assets that make up the system. In reality, however, all of Michigan's transportation assets and programs are part of one system, the integrated transportation system.

What is an integrated transportation system? The public, when using transportation, does not think in terms of separate sets of assets: highways, transit, non-motorized, aviation, intercity passenger, freight, and so on. For the user, there is simply a need to go from one place to another, whether it is to participate in an activity or to move goods.

*An integrated transportation system allows users to easily and seamlessly go from one place to another, or move goods from one place to another, using a variety of modes.*

For example, if a user needs to get to work and does not own a car, he or she may walk on a sidewalk to the bus stop, board the bus, ride to a stop near work, cross the street at the crosswalk and get to work. The trip works for the user if it goes well: the walk to the bus is safe and easy, the bus is on time, the bus does not crash or break down, and it is possible to safely cross the street. If any of these conditions are not met, the trip really does not work. The system is not fully integrated if any one transportation element fails to perform.

From the user's perspective, the need for an integrated system is clear. Developing and delivering an integrated transportation system, from government's perspective, is more challenging, for a variety of reasons. Legal requirements, safety or engineering requirements, funding considerations, land use planning, or the need for coordination among civil jurisdictions may inhibit the ability to provide an integrated transportation system. Overcoming these limitations is no small task.

Within the context of *MI Transportation Plan*, the integration technical report examines a very complicated set of factors that impact the public's need for and the state's ability to deliver an integrated transportation system. The report offers concepts and principles for decision-making that can support an integrated system at the state level. The report is not intended as a stand-alone document; it is most meaningful when taken in the greater context of *MI Transportation Plan* and the other technical reports that support it.

This executive summary synthesizes the information in the integration technical report, but for a complete understanding of the principles offered here, it may be necessary to read the full report.

***The Integrated System and Michigan's Economy:***

Michigan's existing transportation network has functioned well for many years. Businesses rely on transportation to help them produce and ship goods, or perform services. People use transportation to shop, work, recreate, attend school or visit the doctor, as well as many other daily activities.

A more fully integrated transportation system can boost Michigan's economic vitality. An integrated variety of transportation modes will encourage the economic participation of people and businesses in a greater number and variety of activities, all of which have the potential to enhance Michigan's economic performance. An integrated transportation can also save money by reducing transportation costs or increasing efficiency. The more integrated the transportation system is, the easier and more cost-effective it is for people and businesses to participate in the activities that drive Michigan's economy.

***The User's Need for an Integrated System:***

Some transportation user needs are more complex than others. A person with simple transportation requirements may drive straight to a workplace with on-site parking, eat lunch in the office or work through lunch, and then drive straight home again at the end of the day, encountering only the roadway aspect of the transportation system.

A person with more complex transportation needs may drive to work, wait at a railroad crossing while a train passes, park a few blocks away, walk to the office, take a break at lunch to go jogging, walk to a market near work on the way back to the car at the end of the day and then drive home. This person's transportation requirements are more complex. The person with complex transportation needs requires more aspects of infrastructure and services for the system to work. Some aspects of the user's complex needs arise from necessity (crossing the railroad tracks, parking a few blocks from the office) while others arise from choices that the user makes (jogging at lunch, walking to the market). Delivering an integrated system becomes more challenging in locations where transportation user needs are more complex.

***Activities Supported by an Integrated System:***

Just like transportation users, some activities have more complex transportation requirements than others. Some activities, like a doctor's visit, are essential, and must occur using whatever transportation alternative is most directly available. This activity will probably occur in one place and will be directly accessed by the person's primary mode of transportation. Even the doctor and his staff probably used a single primary means of transportation to get to the office. Office supplies probably arrive by a single primary mode of transportation: a single unit delivery truck. Overall, this activity involves limited transportation choices and a limited number of aspects of the transportation system. For that reason, it is seen as having less complex transportation requirements.

Other activities rely on more complex transportation use, especially discretionary activities that may or may not occur, depending on how convenient or accessible the activity is. For example,

if an individual plans to attend a sporting event, he or she could simply drive to the event and drive home. But if the transportation options are there, that individual may choose to get off the highway to stop at a restaurant on the way to the arena, ride a shuttle to the game, and then decide to unwind at a club across the street from the arena before going home. The social and recreational activities (eating at a restaurant, attending the sporting event, socializing at the club) are part of a chain of activities where decisions are made somewhat spontaneously about where to go, when, and how. The chain of activities involves a wider range of transportation choices (stopping at the restaurant, walking to the club). The chain is further complicated when you consider that the opposing sports team probably flew to town for the game, or that during the winter the restaurant uses fresh produce trucked in from the south.

This example also helps clarify how an integrated transportation system can better support economic activity. If any aspect of the transportation system makes it more difficult, or less desirable, for an individual to engage in the chain of activities, he or she may simply not bother with them. The economic activity that might occur is lost.

***Integrating Activity Centers and Corridors:***

An activity center exists wherever a large number of transportation users and a large variety of activities (businesses, education, shopping, health care, industry, recreation) are clustered. Corridors connect activity centers with each other and with users outside the activity center itself.

Delivering an integrated system is far more challenging in activity centers, because the transportation users and their activities have more complicated transportation requirements. Integrated connections are needed at the corridor and throughout the activity center. Activity centers require a greater emphasis on modal balance and integration to ensure the best possible access to the widest variety of activities. Integrating transportation in an activity center means making decisions about how to arrange and deliver a transportation system that connects to the corridor and meets the needs of a variety of potential users and activities.

***Removing Barriers and Realizing Opportunities for Integrated System Performance:***

A performance “barrier” is a condition on the transportation system that makes it more difficult, more expensive or impossible for an activity to take place. Suppose, for example, a person drives on a congested road to a unique market, only to find that the nearest parking is across the street. The congestion on the road to the market and lack of a crosswalk or sidewalk could be barriers to system performance. The individual may find it harder, more dangerous, or more expensive to go to the market. Even if the crosswalk exists, but the road is highly congested, there is still a performance barrier.

“Opportunities” are conditions on the transportation system that make it easier, less expensive, or possible for an activity to take place that may not otherwise occur. For example, if a scenic byway could attract people from throughout the nation to vacation, hike, and walk in Michigan, the byway provides an opportunity to stimulate tourism, recreational, and health-related activities that would otherwise not occur.

Removal of transportation performance barriers and the realization of opportunities are key to improving the integrated system performance and fulfilling Michigan's economic potential.

***Funding the Integrated System:***

Transportation users desire seamless transportation access to activities, but the programs and revenues supporting Michigan's transportation system are not structured that way. Instead, they are geared to particular modes or particular aspects of transportation. For example, separate federal and state programs support roadways, airports, and transit. Some federal funds are geared to particular programs like safety, or improving air quality by reducing congestion.

There are not sufficient revenues overall to invest as much as might be desirable in all aspects of the transportation system. It is possible, however, to "leverage" transportation investments to integrate the system more completely. This can be done by investing in work that directly or indirectly provides benefit to more than one mode. A leveraged investment is one that improves the performance of more than one mode at the same time, or reduces the need for investment elsewhere in the integrated transportation system.

For example, investment in a roadway preservation project may also provide an opportunity to improve crosswalks and pedestrian access to transit stops. The roadway project may also improve the safety or reliability of transit and commercial vehicles. Investing funds where there is a high potential for leverage is a way to support the integrated system.

***Decision Principles for the Integrated System:***

An integrated transportation system for users can be achieved by making planning decisions consistent with systems integration. At the highest level, the first decision pertains to the investment of statewide revenues into funding categories and programs that can be leveraged to support integrated projects and programs. Key principles for statewide investment decisions are:

- Invest financial resources to preserve existing system components.
- When improving a system component, consider and make allowances for improvements that may be needed in integrated components.
- Seek investments that provide leverage, remove barriers, realize opportunities, and improve integration for multiple components.
- Assess performance objectives with respect to all modes.

When funding is available, additional decisions can be made about how and where to implement projects to better integrate transportation elements in Michigan's corridors and activity centers. These decisions should take into account the complexity of the transportation needs of the users and activities affected by the project.

That assessment should occur in the scoping of transportation improvements. Key principles for corridor implementation strategies are:

- Implement strategies one project at a time;
- Assess the complexity of user needs and activities when conducting corridor studies;
- Allow greater flexibility and innovation in funding for needs that are more complex;
- Assess how connections to and within complex activity centers can be improved for overall corridor performance;
- Recognize that investments in one mode on a complex corridor or in an activity center are likely to generate needs or benefits on other modes;
- Coordinate with partners and stakeholders to understand corridor complexity and maximize financial and performance leverage for other modes or jurisdictions; and,
- Consider linkages between land use and performance of system components.

Integrating transportation hinges on the ability to keep all potential transportation users in mind when making choices about how to invest resources, implement programs, or develop projects. Ultimately, the development and delivery of an integrated transportation system occurs one project at a time, one decision at a time.

*MI Transportation Plan* provides concepts and principles for the decisions needed to realize the vision of a fully integrated system. The beneficiaries of an integrated system are Michigan's people and businesses, who will use the integrated system to achieve their greatest human and economic potential with greater freedom from the barriers to safety, mobility, and sustainability.



*Providing the highest quality integrated transportation services  
for economic benefit and improved quality of life*

